CLAIMS

1. A system for manufacturing a fullerene derivative comprising high electron temperature plasma generating means for generating a positive monovalent ion M^+ from a gas containing an atom M which acts as a moiety in the production of a fullerene derivative; electron energy controlling means for controlling the electron energy of plasma which is located downstream of the high electron temperature plasma generating means in terms of the flow of plasma; fullerene introducing means for introducing a fullerene into plasma comprised of M^+ and electrons to produce a fullerene ion; and a deposition substrate where a fullerene derivative produced as a result of reaction between the fullerene ion and M^+ is allowed to deposit.

2. A system for manufacturing a fullerene derivative comprising high electron temperature plasma generating means for generating a positive monovalent ion M^+ from a gas containing an atom M which acts as a moiety in the production of a fullerene derivative; fullerene introducing means for introducing a fullerene; and a deposition substrate, wherein plasma comprised of M^+ is driven against the deposition substrate while at the same time fullerene ejected via the fullerene introducing means is allowed to impinge onto the deposition substrate so that M^+ and fullerene react with each other to produce a fullerene

derivative which deposits on the deposition substrate.

3. The system for manufacturing a fullerene derivative in Claim 2 further comprising electron energy controlling means for controlling the energy of electrons in plasma which is located downstream of the high electron temperature generating means in terms of the flow of plasma.

4. The system for manufacturing a fullerene derivative in any one of Claims 1 to 3 wherein the high electron temperature plasma generating means comprises gas introducing means, a microwave generator for exciting the gas to produce positive ions therefrom, a pair of coils for generating a mirror field which prohibits the dispersion of the positive ions thus produced, and a four phased helical antenna located between the pair of coils.

5. The system for manufacturing a fullerene derivative in any one of Claims 1 to 4 wherein the energy of electrons in the high electron temperature plasma generating means is 15 to 50 eV.

6. The system for manufacturing a fullerene derivative in Claim 1 or any one of Claims 3 to 5 wherein the electron energy controlling means is a control electrode located downstream of the high electron temperature plasma generating means in terms of the flow of

plasma.

7. The system for manufacturing a fullerene derivative in Claim 1 or any one of Claims 3 to 6 wherein the controlled energy of electrons is 1 to 10 eV.

8. A method for manufacturing a fullerene derivative employed by a system in any one of Claims 1 to 7 for manufacturing a fullerene derivative.

9. The method for manufacturing a fullerene derivative in Claim 8 wherein the atom to act as a moiety in the production of a fullerene derivative is nitrogen, hydrogen, argon, helium, neon, or boron.

10. The method for manufacturing a fullerene derivative in Claim 8 or 9 wherein the fullerene derivative is an endohedral fullerene or heterofullerene.

11. The method for manufacturing a fullerene derivative in Claim 8 wherein the fullerene derivative is $N@C_{60}$, $C_{59}N$, or $C_{58}BN$.